



Coastal Protection and Restoration Authority of Louisiana

Office of Coastal Protection and Restoration

2011 Annual Inspection Report

NAOMI OUTFALL MANAGEMENT

State Project Number BA-3c
Priority Project List 5

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Jefferson Parish

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I. Introduction

The Naomi Outfall Management Project (State Project No. BA-03c) is located south of Lafitte, Louisiana. Although the project features are located entirely in Jefferson Parish, the project outfall area encompasses 27,135 acres in Jefferson and Plaquemines Parishes. More specifically, project features are located on two streams – Goose Bayou Canal and Bayou Dupont – which connect the Barataria Bay Waterway to the Pen (Appendix A).

II. Project Description and History

In February, 1993, the Naomi Siphon, located on the west bank of the Mississippi River, went into operation and has delivered an average of 997 cfs of fresh river water (when operating) into the marshes and streams east of the Pen. Much of this fresh water eventually exits the project area via Goose Bayou Canal and Bayou Dupont Canal which connect the Pen with the Barataria Waterway. During periods of high tide, reverse flow occurs and high-salinity water from the Barataria Waterway enters the Pen via the two subject canals. So, the two canals provide a natural avenue for loss of fresh river water from the project area and intrusion of high-salinity water into the project area.

The present project, which consists of fixed crest weirs with boat bays, restricts the hydrologic connections between the Pen and the Barataria Waterway. This restriction holds diverted water and nutrients in the project area, while restricting the high salinity waters from the Barataria Waterway. The weirs moderate or dampen the interchange of water into and out of the Pen through Goose Bayou Canal and Bayou Dupont Canal. Thus, retention of sediment-rich fresh siphon water in the outfall area is maximized, and intrusion of high-salinity water is minimized.

Project construction began on June 1, 2002, and was completed on July 15, 2002. Project life is estimated to be 20 years. Annual project inspections are planned.

On June 20, 2006, a contract was awarded to place two warning buoys in places where warning signs were damaged and to replace 5 navigation lights. This project was completed on October 4, 2006.

The principal project features include:

1. One stone weir at **Goose Bayou Canal**
 - a. Total length of weir = 458 ft.
 - b. Bottom width of boat bay = 30 ft.
 - c. Boat bay bottom elevation= -5 ft. (NAVD 88)
 - d. Weir crest = +1 ft. (NAVD 88)
 - e. Rock placed directly on geotextile
 - f. Rock rip rap = 3,967 tons
 - g. Geotextile = 2,851 yards

- h. Rock conforms to Rock Type 1 of Material Specification 523 with a gradation of:

| Percent Lighter Than | Rock Unit Weight |
|----------------------|------------------|
| 100 | 700 lbs |
| 50-100 | 300 lbs |
| 15-50 | 150 lbs |
| 0-15 | 45 lbs |

- i. Four (4) - 4-piling clusters with navigation aid lights and warning signs
- j. Six (6) single pilings with warning signs
- k. Thirty-two buoys and associated stainless steel cable
2. One stone weir at **Bayou Dupont Canal**
- a. Total length of weir = 302 ft.
- b. Bottom width of boat bay = 30 ft.
- c. Boat bay bottom elevation = -5 ft. (NAVD 88)
- d. Weir crest +1 ft. (NAVD 88)
- e. Rock placed directly on geotextile
- f. Rock rip rap = 8,505 tons
- g. Geotextile = 3,374 yards
- h. Rock conforms to Rock Type 1 of Material Specification 523 with a gradation of:

| Percent Lighter Than | Rock Unit Weight |
|----------------------|------------------|
| 100 | 700 lbs |
| 50 -100 | 300 lbs |
| 15-50 | 150 lbs |
| 0-15 | 45 lbs |

- i. Four (4) 4-pile clusters with day mark navigation signs and three (3) of the piling clusters have navigation aid lights.
- j. Three (3) single pilings with warning signs (reduced from five (5) in 2006 repair project)
- k. Twenty-two warning buoys with stainless steel cable
- l. Two (2) marker buoys with warning markings and internal radar reflectors (added during 2006 repair project in place of two (2) single pilings with warning signs).

III. Inspection Purpose and Procedures

The purpose of the annual inspection of the Naomi Outfall Management Project (BA-03c) is to evaluate the constructed project features to identify any deficiencies and prepare a report detailing the condition of project features and recommended corrective actions needed. Should it be determined that corrective actions are needed, OCPR shall provide, in the report, a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs (O&M Plan December 24, 2002). The annual inspection report also contains a summary of maintenance projects and an estimated projected budget for the upcoming three (3) years for operation, maintenance and rehabilitation. The three (3) year projected operation and maintenance budget is shown in Appendix C. A summary of past operation and maintenance projects completed since completion of the Naomi Outfall Management Project are outlined in Section II.

An inspection of the Naomi Outfall Management Project (BA-03c) was held on April 21, 2011, by Barry Richard of OCPR and Quin Kinler and Michael Trusclair of NRCS. Photographs of that inspection are included in Appendix B of this report.

IV. Inspection Results

BAYOU DUPONT CANAL WEIR

Rock Riprap

The structure has been altered to facilitate construction of the South Shore of the Pen (BA-41) Project. Rock has been temporarily removed from the weir and stored within the footprint of the structure (Photo #1). The structure will be replaced as designed at a later date.

Pilings

There is no noticeable damage to the existing pilings.

Warning Signs and Day Board Navigation Signs

All signs are in good condition.

Navigation Aid Lights

Two of the navigation aids have been removed to facilitate construction of the South Shore of the Pen (BA-41) Project. These will be replaced at a later date. There is a contract in place to handle the maintenance and repair of all navigation lights.

Regulatory Marker Buoys

Both buoys have gone missing.

GOOSE BAYOU CANAL WEIR

Rock Riprap

Based on a survey the structure has settled an average of 2 feet since construction. This is evident by the structure rarely above the water line.

Pilings

All pilings visually appeared to be damage-free and in good condition. Some of the reflective tape is missing or falling off.

Warning Signs and Day Board Navigation Signs

Some of the signs are losing their lettering due to weathering (Photo #2). The orange warning buoys on the north side came loose from the temporary repair and were repaired again before the inspection.

Navigation Aid Lights

There was no damage to any navigation lights. There is a contract in place to handle the maintenance and repair of all navigation lights.

V. Conclusions

Overall, the Naomi Outfall Management project is functioning properly and is in fair condition. Vandalism to the navigational aids continues to be a concern. The South Shore of the Pen Shoreline Protection Project (BA-41) was under construction at the time of the inspection and the Bayou Dupont Structure was altered to facilitate construction access. It has been requested that the structure remain like it is through construction of two more projects in the area which are to be constructed in the near future.

VI. Recommendations

No recommendations.

Immediate Repairs

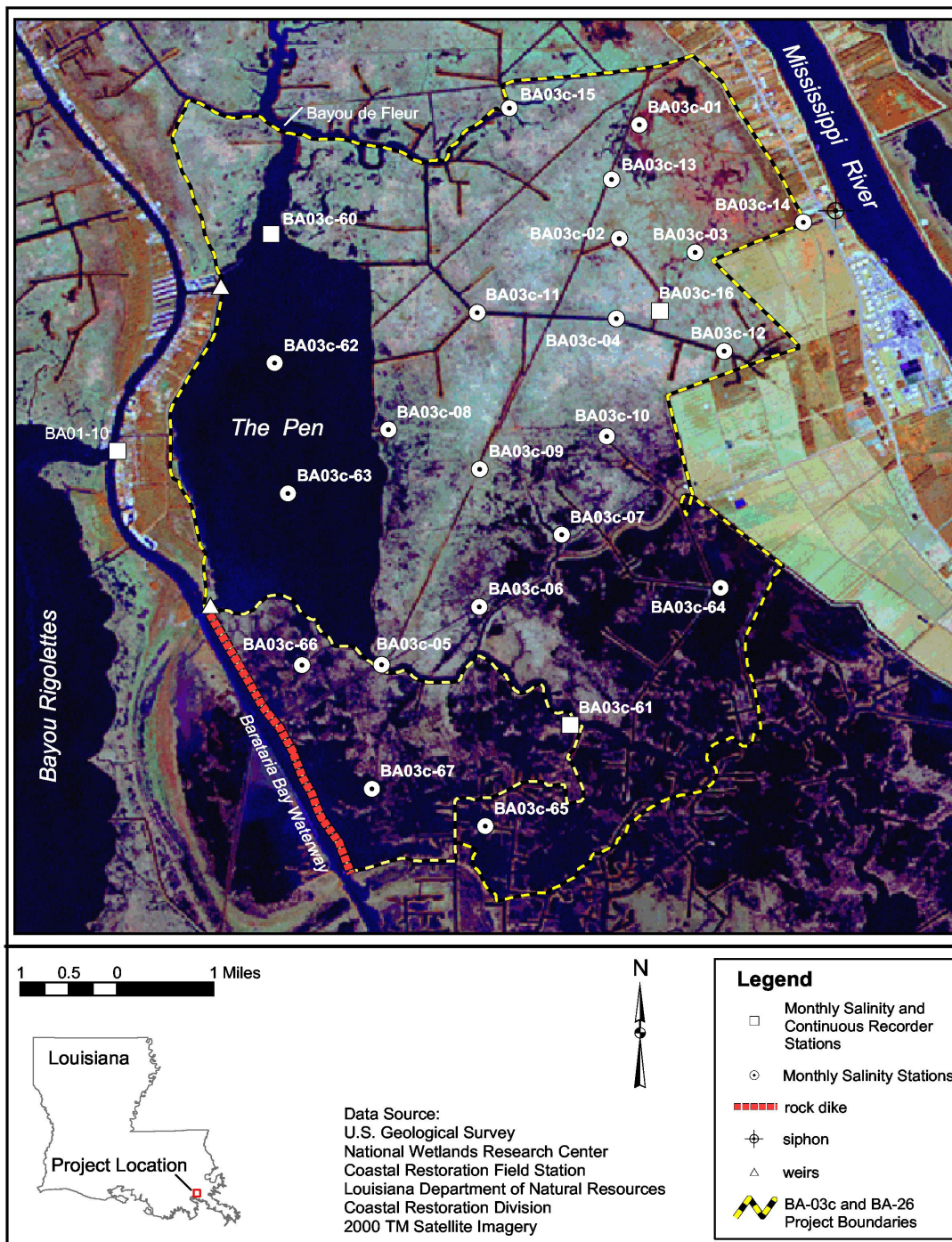
- Bayou Dupont and Goose Bayou repair needs listed in Section IV.

Programmed Maintenance

- A contract has been awarded to Automatic Power for regular maintenance of the lights.

Appendix A

Project Features Map



Appendix B

Photographs



Photo #1 – Bayou Dupont Canal Weir. Looking out from the Pen.



Photo #2 – Goose Bayou Canal Weir. Looking West.

Appendix C

Three Year Budget Projection

Annual Inspection Report
NAOMI OUTFALL MANAGEMENT
State Project No. BA-013c

Naomi Outfall Management Project (BA-03c)

Federal Sponsor: NRCS
Construction Completed : 8/2002
PPL 5

| Current Approved O&M Budget June 2009 | Year 0 FY03 | Year - 1 FY04 | Year -2 FY05 | Year -3 FY06 | Year -4 FY07 | Year -5 FY08 | Year -6 FY09 | Year -7 FY10 | Year -8 FY11 | Year -9 FY12 | Year -10 FY13 | Year -11 FY14 | Year -12 FY15 | Year -13 FY16 | Year -14 FY17 | Year -15 FY18 | Year -16 FY19 | Year - 17 FY20 | Year -18 FY21 | Year -19 FY22 | Project Life Budget | Currently Funded |
|--|----------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------------|---------------------|
| State O&M | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$488,980 | \$292,922 |
| Corps Admin | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Federal S&A | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Total | | | | | | | | | | | | | | | | | | | | | \$488,980 | \$292,922 |

| Projected O&M Expenditures | | | | | | | | | | | | | Remaining Project Life | Current 3 year Request | | | | | | | | | | | |
|----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|---------------------------|---------------------------|---------|-----------|---------|---------|---------|----------|---------|---------|---------|-----------|-----|
| Maintenance Inspection | | | | | | | | | | | | | \$3,429 | \$3,518 | \$3,610 | \$3,703 | \$3,800 | \$3,899 | \$4,000 | \$4,104 | \$4,211 | \$4,320 | \$4,432 | \$43,026 | \$0 |
| General Maintenance | | | | | | | | | | | | | | | | | | | | | | | | \$0 | \$0 |
| Surveys | | | | | | | | | | | | | | | | | | | | | | | | \$0 | \$0 |
| Sign Replacement | | | | | | | | | | | | | \$7,000 | | | | | | | \$7,000 | | | | \$14,000 | \$0 |
| Federal S&A | | | | | | | | | | | | | | | | \$1,749 | | | | | | | | \$1,749 | \$0 |
| Maintenance/Rehabilitation | | | | | | | | | | | | | | | | | | | | | | | | \$0 | \$0 |
| E&D | | | | | | | | | | | | | | | | \$7,454 | | | | | | | | \$7,454 | \$0 |
| Construction | | | | | | | | | | | | | | | | \$186,341 | | | | | | | | \$186,341 | \$0 |
| Construction Oversight | | | | | | | | | | | | | | | | \$37,268 | | | | | | | | \$37,268 | \$0 |
| Total | | | | | | | | | | | | | \$10,429 | \$3,518 | \$3,610 | \$236,515 | \$3,800 | \$3,899 | \$4,000 | \$11,104 | \$4,211 | \$4,320 | \$4,432 | \$289,837 | \$0 |

Notes:

1. The year-by-year figures for the current Approved O&M Budget are based on the BEAST approved at the 6/3/09 Task Force meeting. This spreadsheet was a correction to the BEAST submitted for the Fall 2008 funding requests.

O&M

State

Federal Sponsor MIPRs (if applicable)

\$0

Total Estimated O&M Expenditures (as of April 2010)

\$196,058

| | | | |
|--|-----------|--|-----------|
| Current O&M Budget less COE Admin | \$488,980 | Current Project Life Budget less COE Admin | \$488,980 |
| Remaining Available O&M Budget | \$292,922 | Total Projected Project Life Budget | \$485,896 |
| Incremental Funding Request Amount FY12-FY14 | -\$3,084 | Project Life Budget Request Amount | -\$3,084 |

Appendix D

Field Inspection Form

Annual Inspection Report
 NAOMI OUTFALL MANAGEMENT
 State Project No. BA-013c

FIELD INSPECTION CHECK SHEET

Project No. / Name: Naomi Outfall Management

Date of Inspection: 4/21/2011 Time: 9:30

Structure No. Bayou Dupont Canal

Inspector(s): Richard, Kinler, Trusclair

Structure Description: Stone Weir

Water Level: Inside: N/A Outside: 0.80'

Type of Inspection: Annual

Weather Conditions: Partly Cloudy, Moderate Wind

| Item | Condition | Physical Damage | Corrosion | Photo # | Observations and Remarks |
|--|-----------|------------------|-----------|---------|---|
| Rock Riprap | Good | None | N/A | #1 | Structure altered for construction of BA-41 |
| Creosote Piling | Fair | None | None | #1 | |
| Warning Signs and Day Board Navigation Signs | Fair | None | None | #1 | |
| Navigation Aid Lights | Fair | None | None | #1 | Structure altered for construction of BA-41 |
| Warning Buoys | Poor | See observations | None | #1 | |
| Vandalism | N/A | N/A | N/A | | |

Annual Inspection Report
 NAOMI OUTFALL MANAGEMENT
 State Project No. BA-023c

FIELD INSPECTION CHECK SHEET

Project No. / Name: Naomi Outfall Management

Date of Inspection: 4/21/2011 Time: 9:30

Structure No. Goose Bayou Canal

Inspector(s): Richard, Kinler, Trusclair

Structure Description: Stone Weir

Water Level: Inside: N/A Outside: 0.80'

Type of Inspection: Annual

Weather Conditions: Partly Cloudy, Moderate Wind

| Item | Condition | Physical Damage | Corrosion | Photo # | Observations and Remarks |
|--|-----------|-----------------|-----------|---------|---|
| Rock Riprap | Good | None | N/A | | Possible settlement, survey needed. |
| Creosote Piling | Good | None | None | #2 | |
| Warning Signs and Day Board Navigation Signs | Good | None | None | #2 | Weathering of lettering, some reflective tape missing. Continue to observe. |
| Navigation Aid Lights | Good | None | None | #2 | |
| Warning Buoys | Good | None | None | #2 | New temporary repair holding for now. Permanent repair needed. |
| Vandalism | N/A | N/A | N/A | | |